Fig. 1a

BASIC LS-APGD SOURCE OPERATION
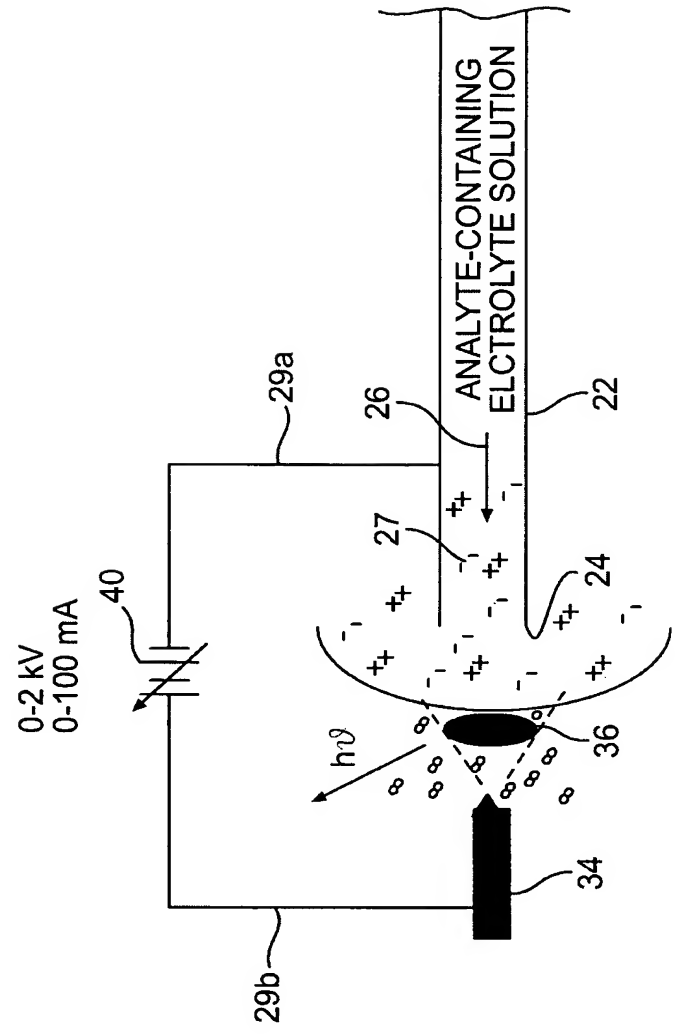

Fig. 1b

PROPOSED IMPLEMENTATION OF LS-APGD
WITH MICROFLUIDIC DEVICES
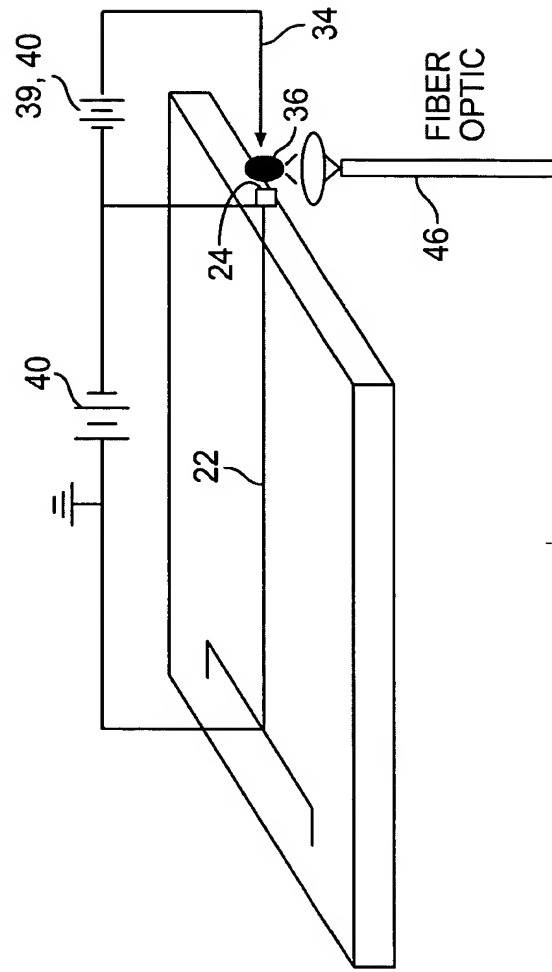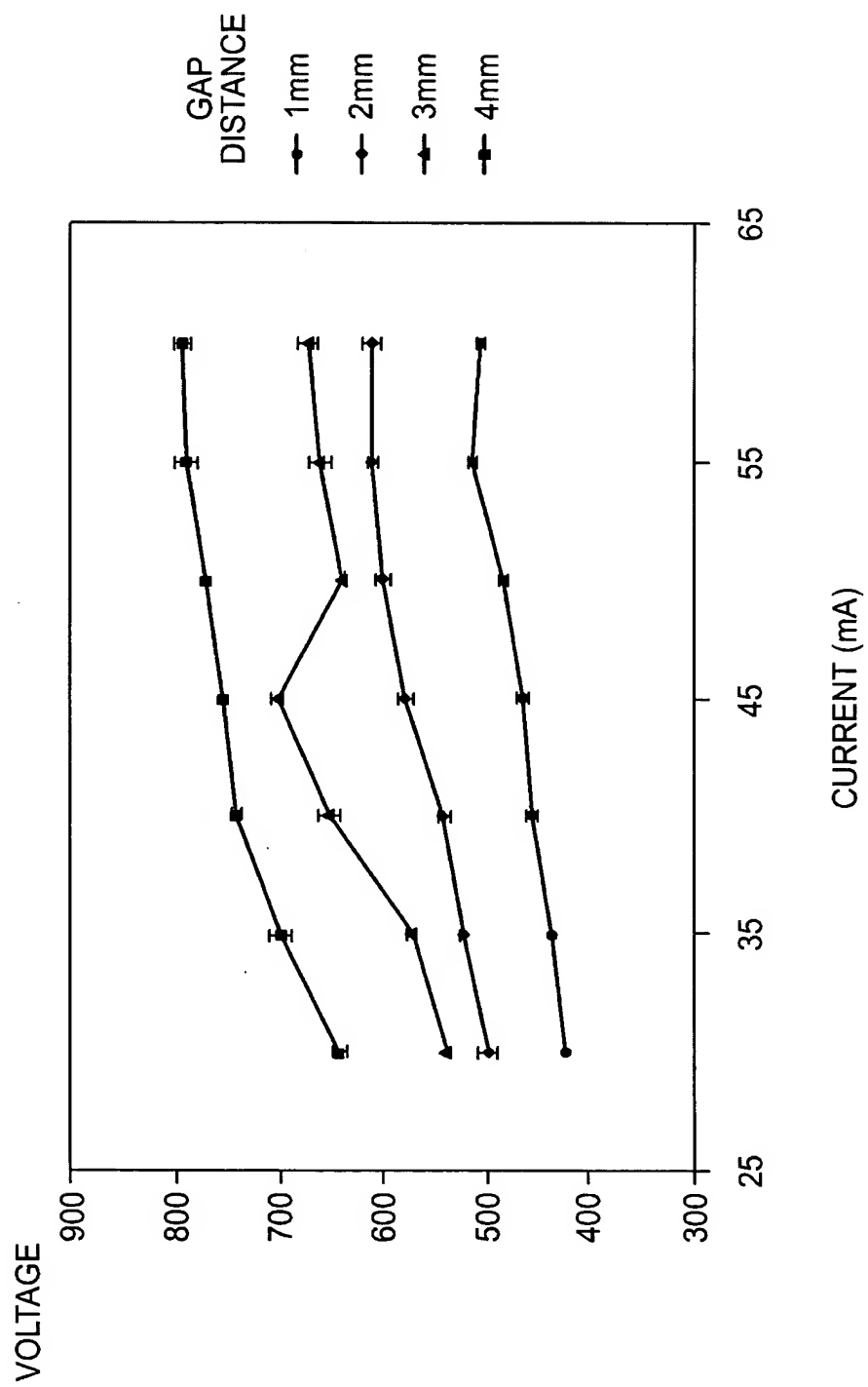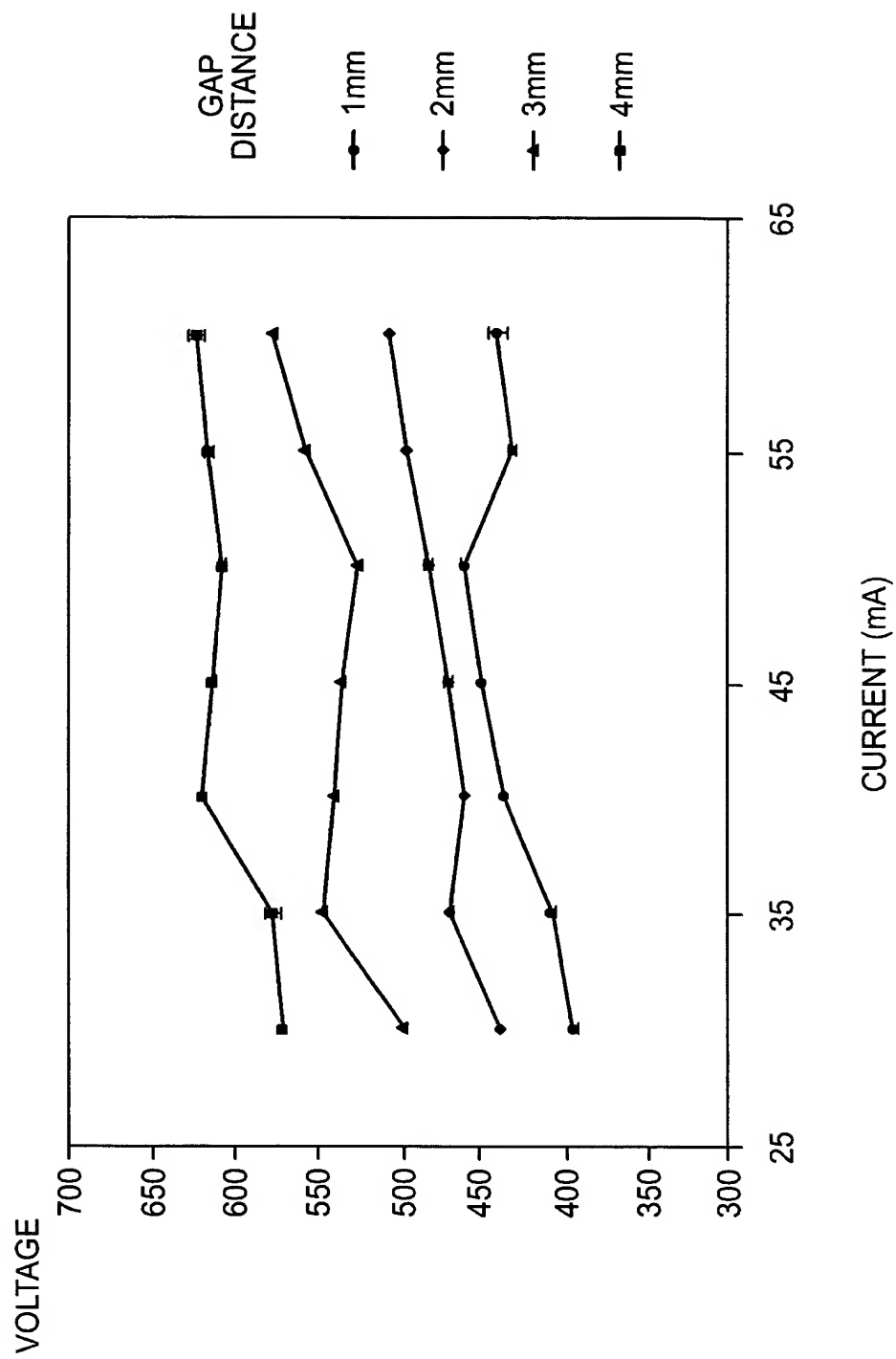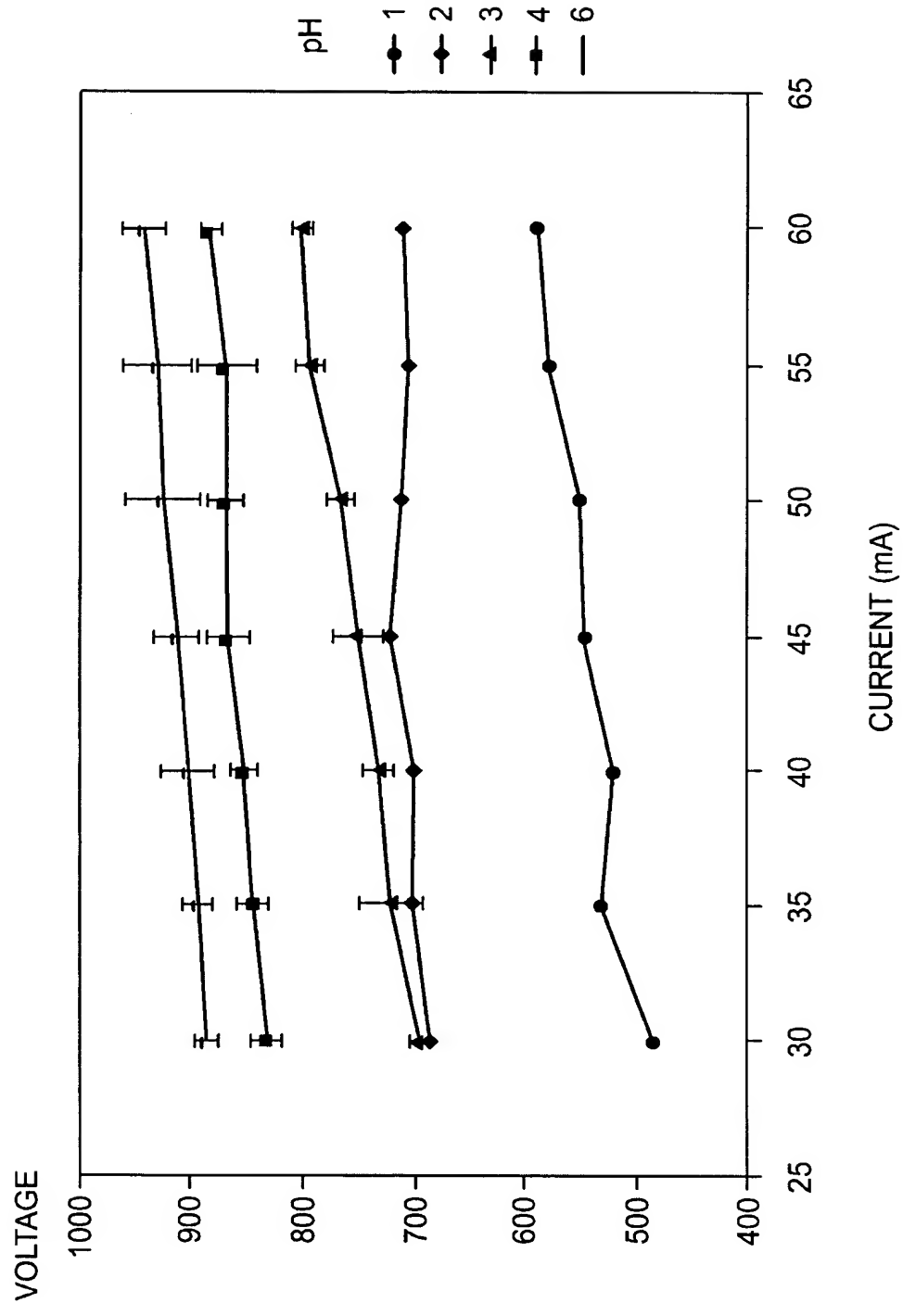

Fig. 1c

GAP
DISTANCE

— 1mm
— 2mm
— 3mm
— 4mm

VOLTAGE

CURRENT (mA)

Fig. 2a

Fig. 2b

Fig. 3a
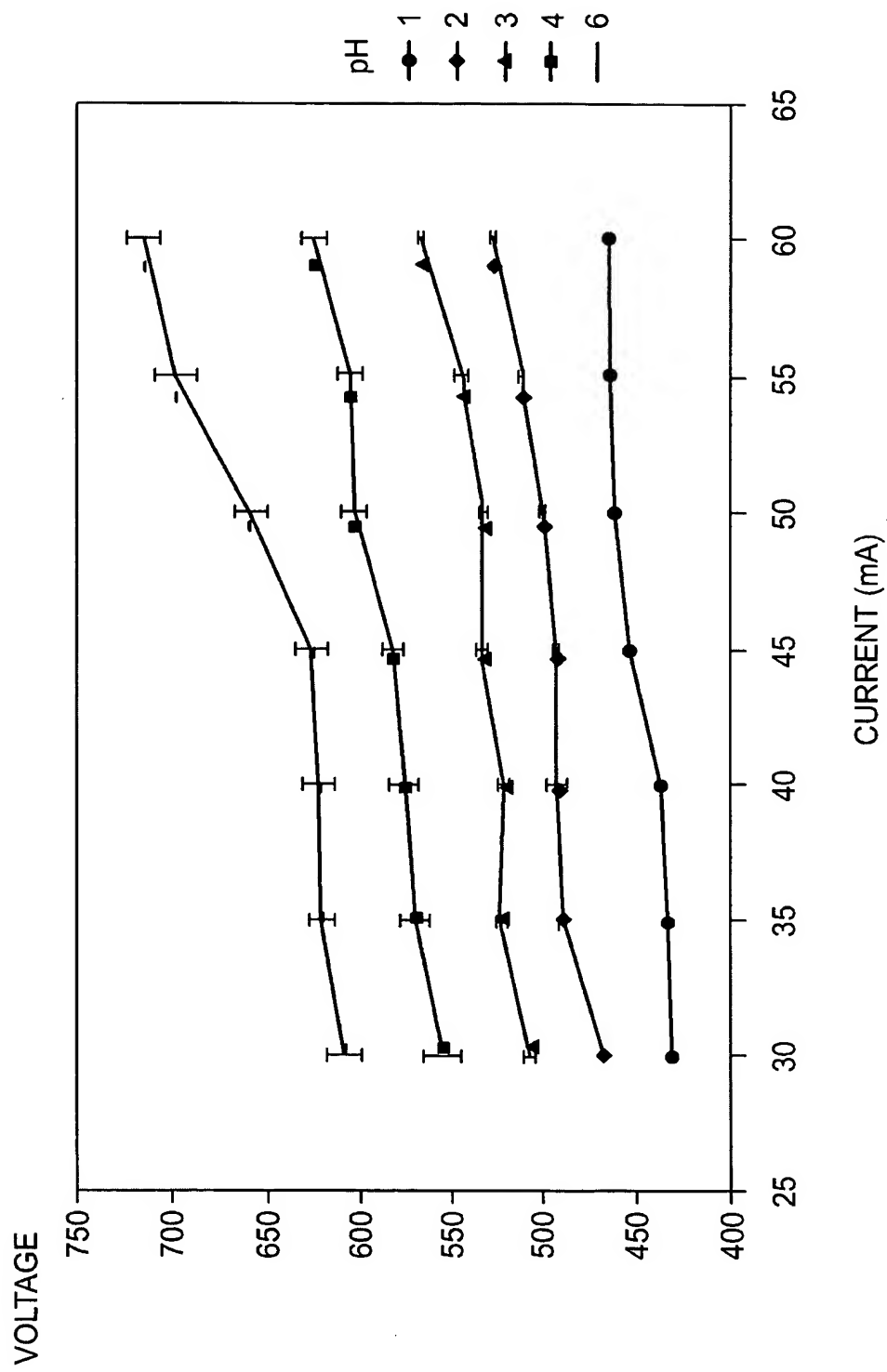
Fig. 3b
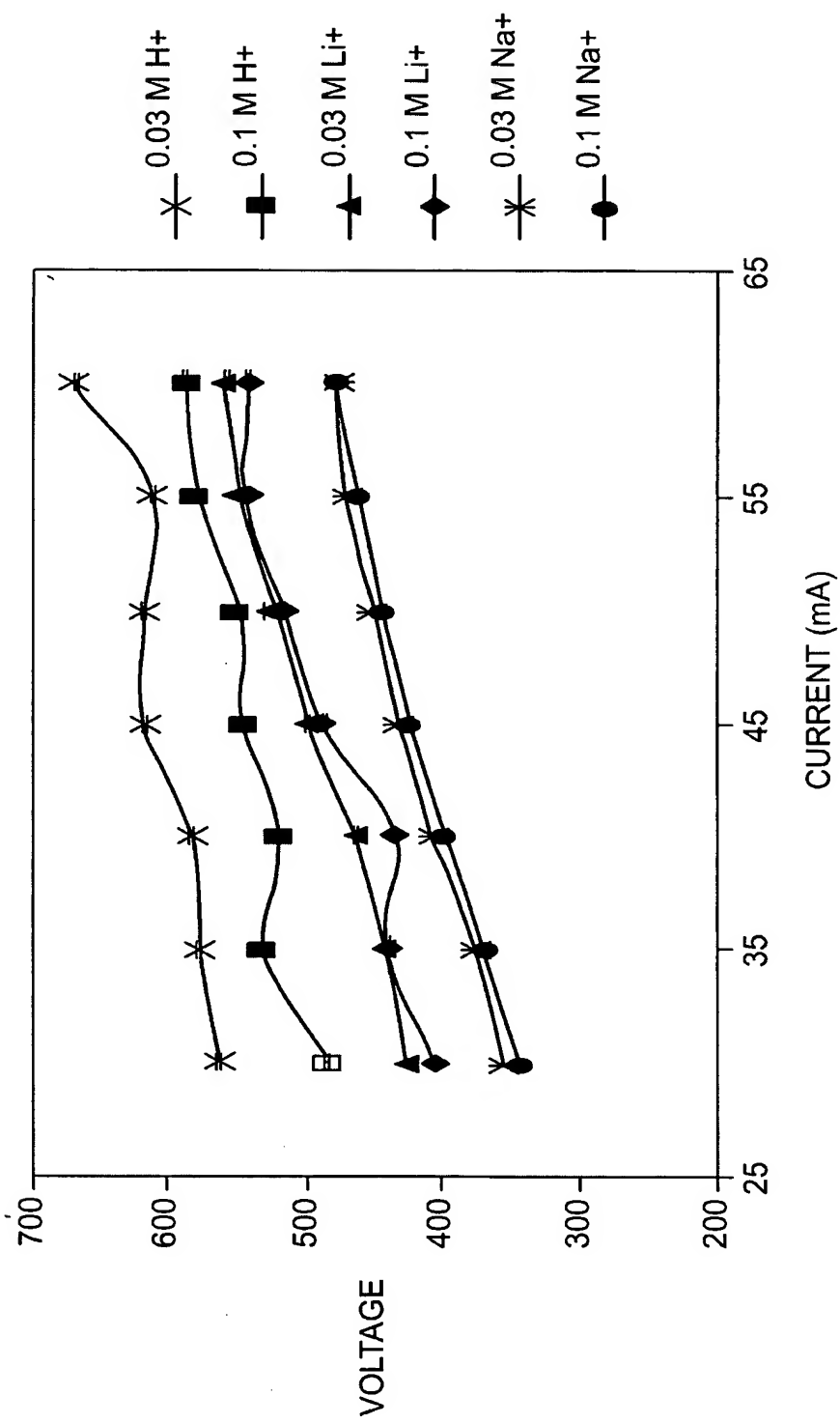
Fig. 4a
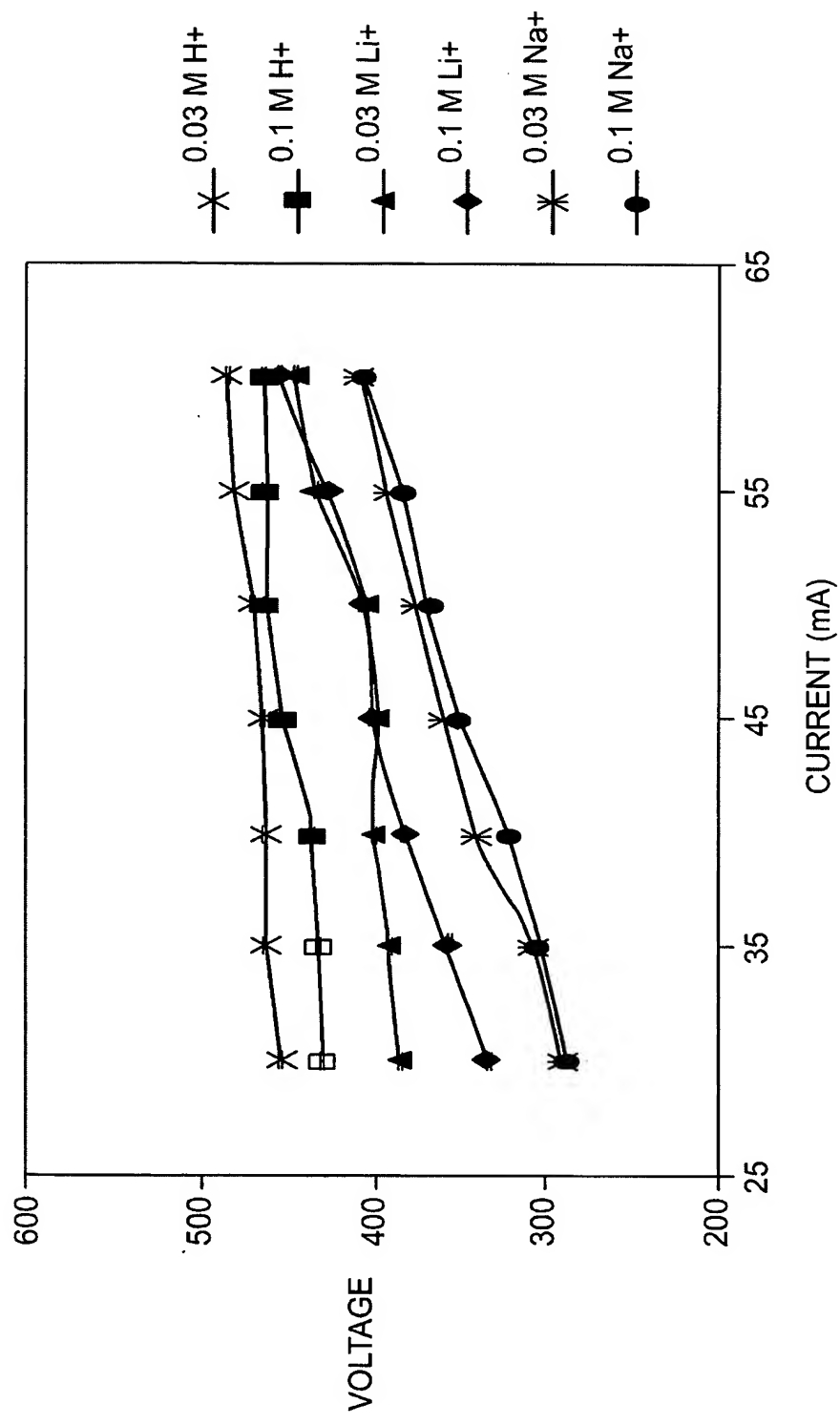
Fig. 4b
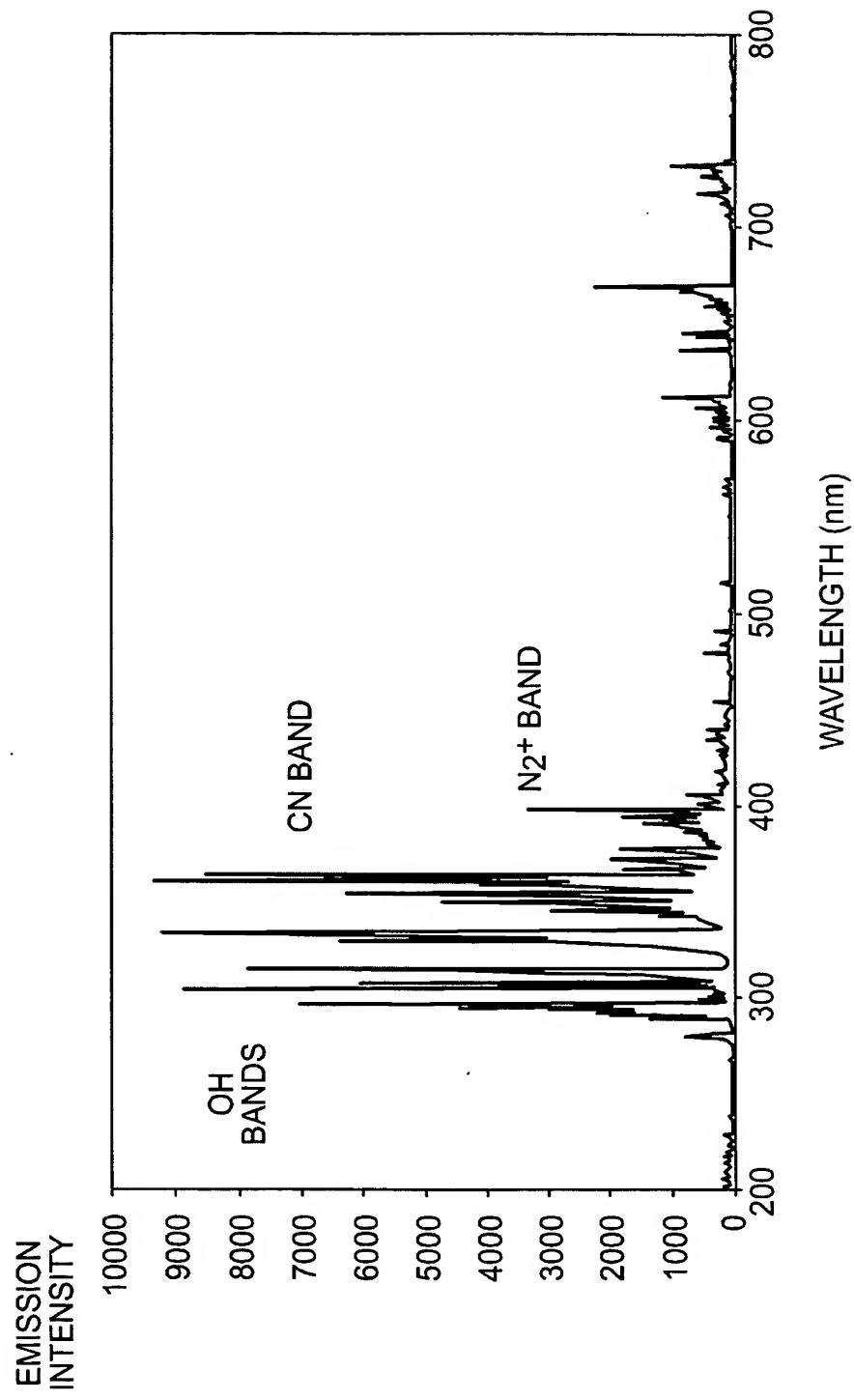
Fig. 5
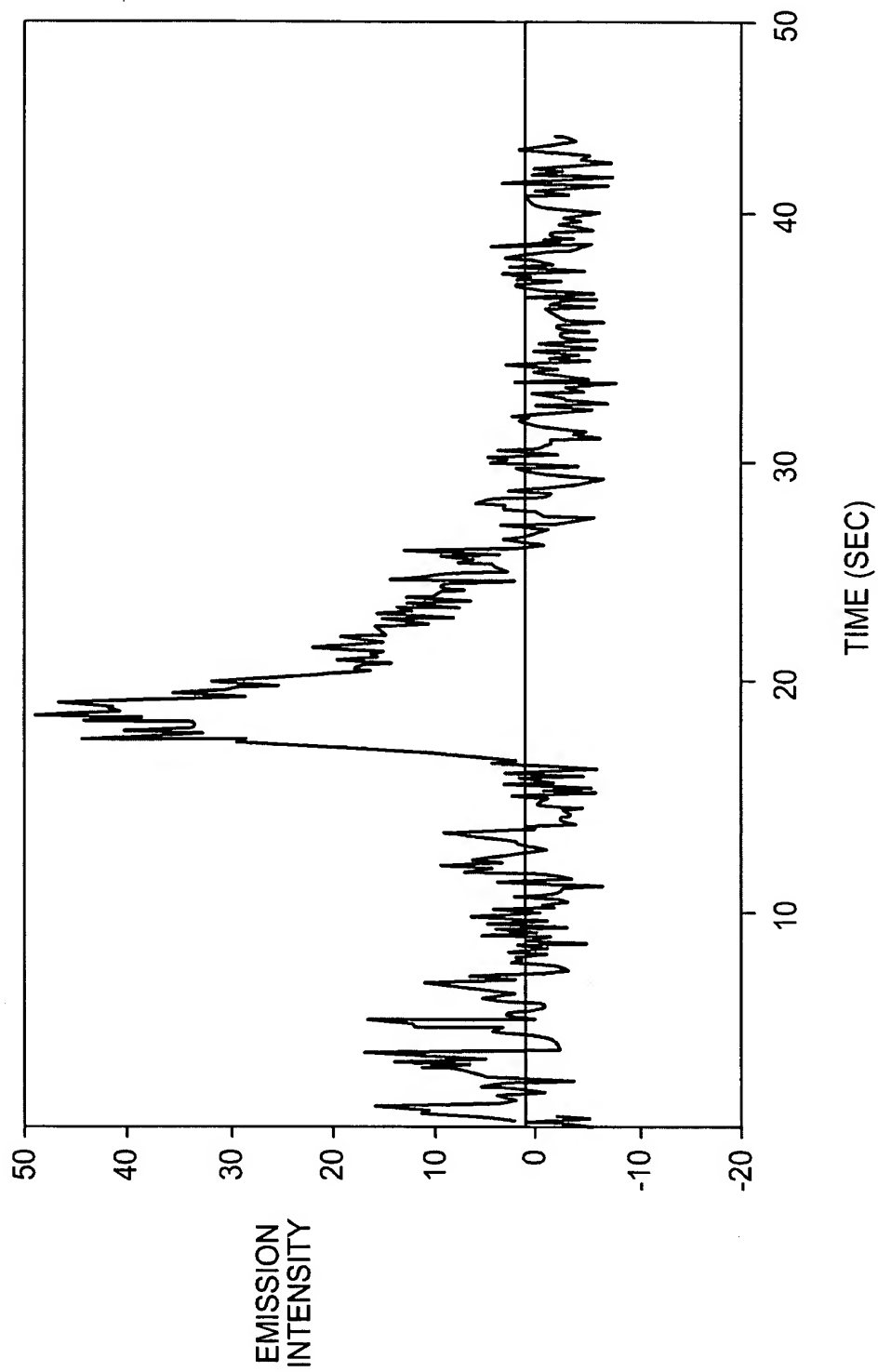
Fig. 6

Fig. 7

Fig. 8

Fig. 9

ANALYTICAL RESPONSE FUNCTIONS AND LIMITS OF DETECTION FOR THE LS-APGD DEVICE.
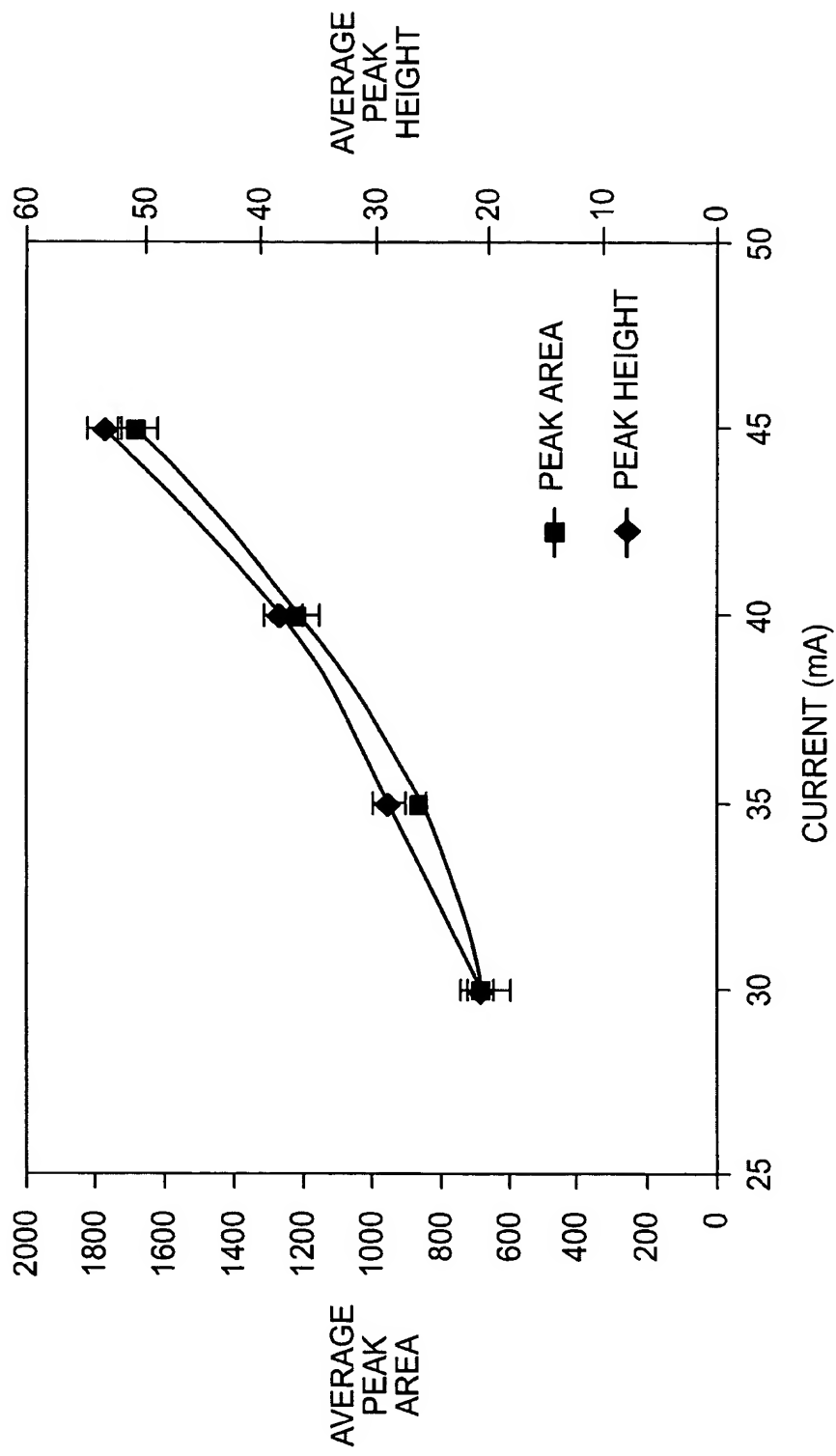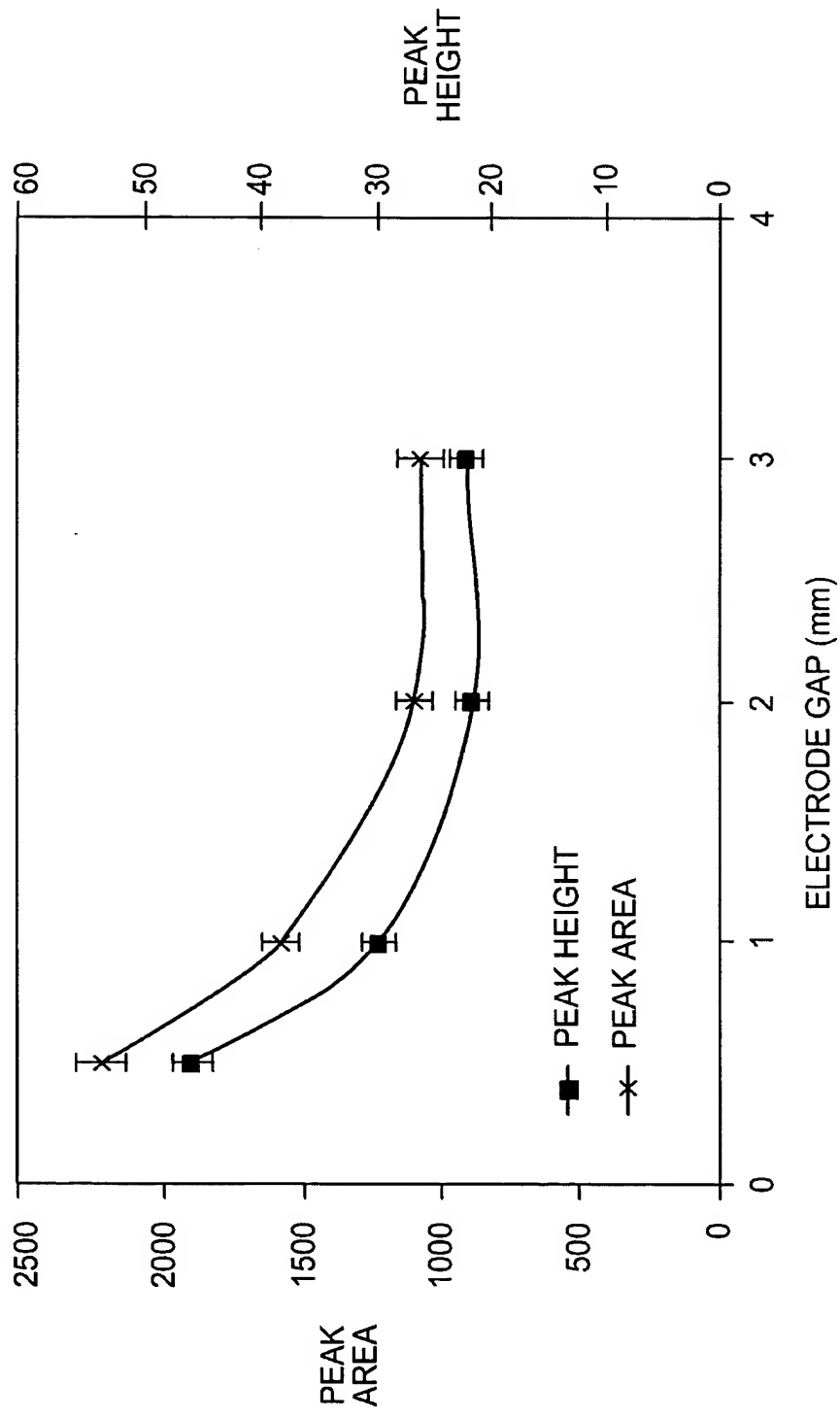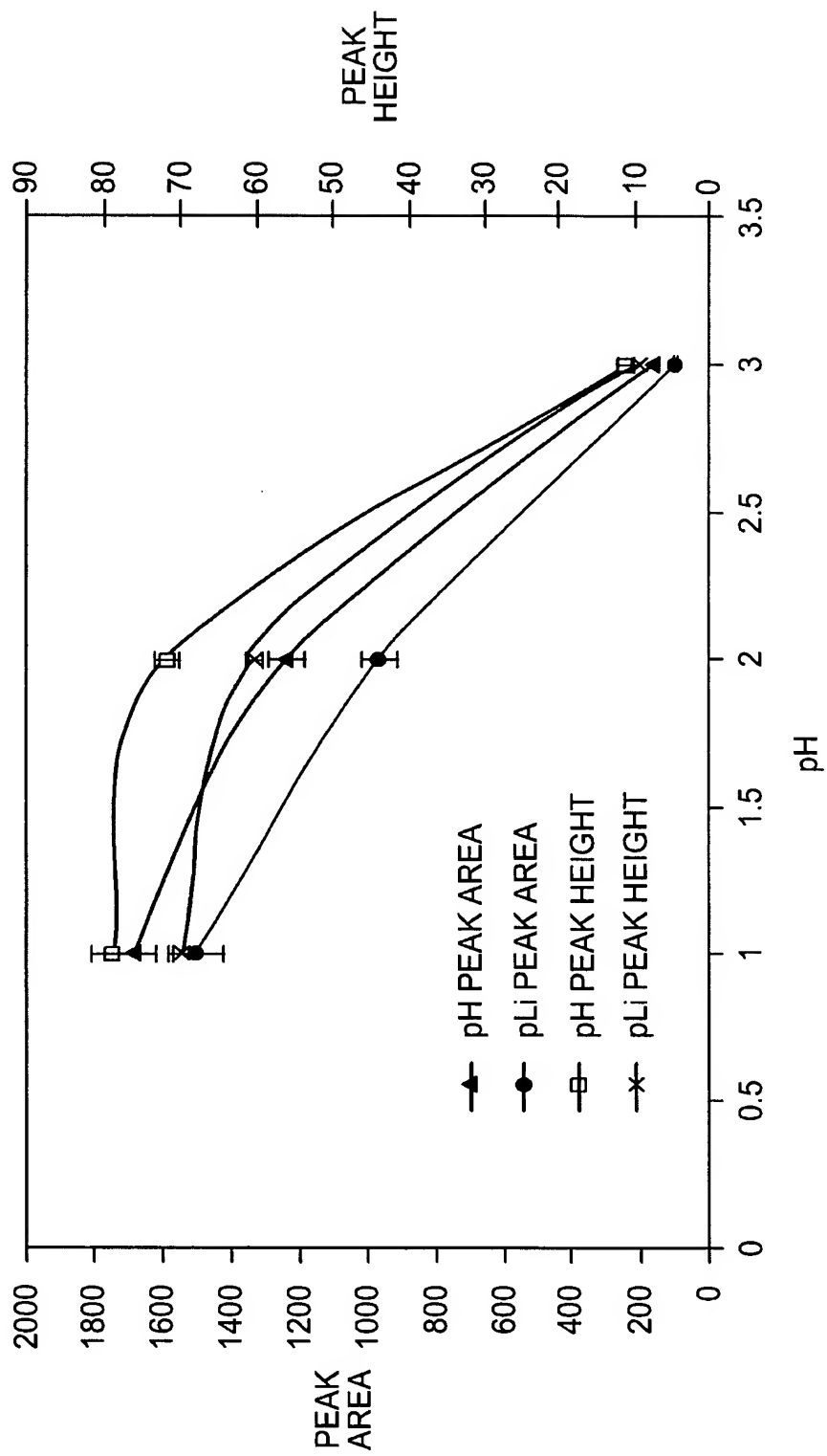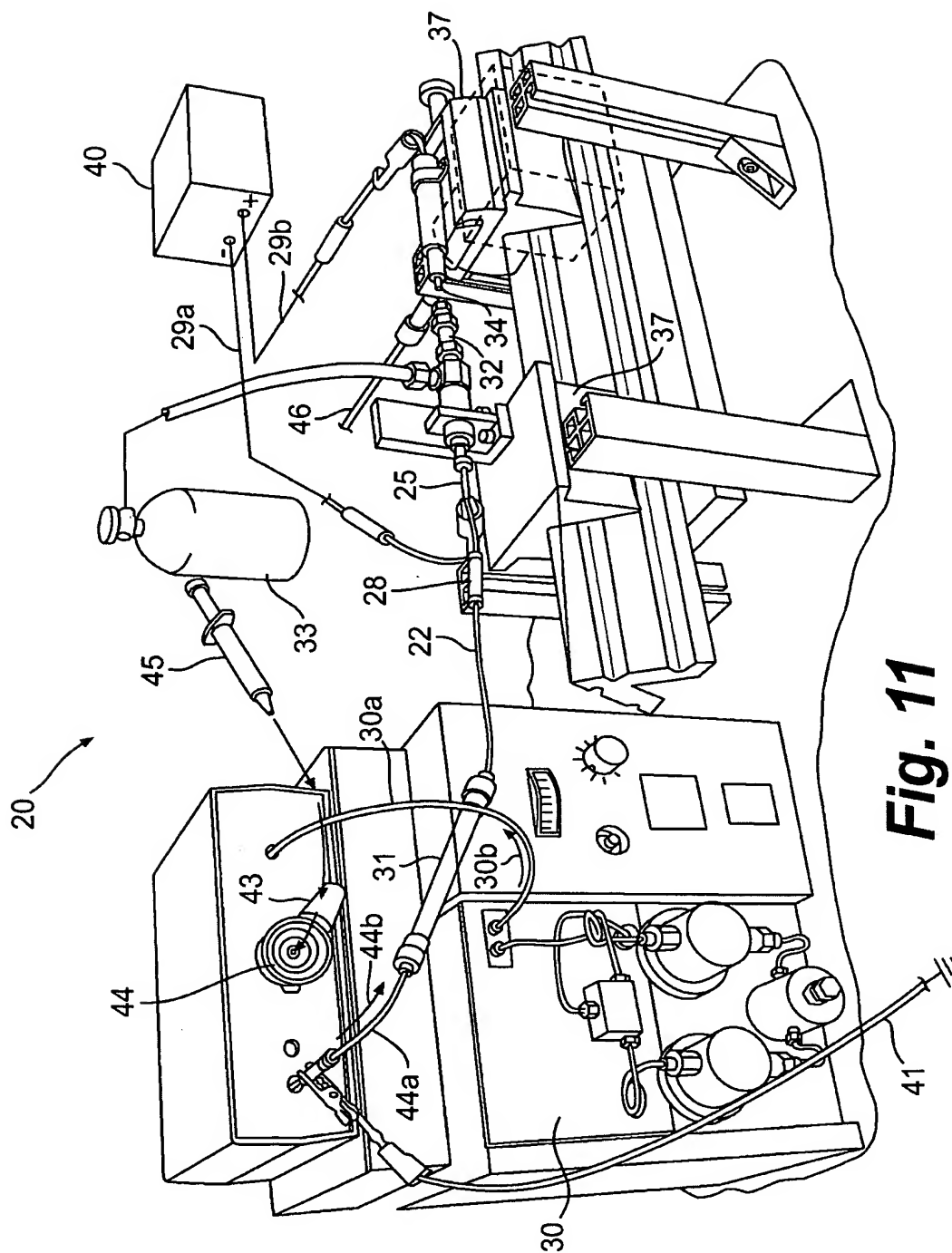SOLUTION FLOW RATE = 1 mL/MIN., ELECTROLYTE pH = 1, INTER ELECTRODE GAP = 1 mm,
INJECTION VOLUME = 5μL.

ELEMENT	WAVELENGTH (nm)	PEAK HEIGHT EQN.	R^2	PEAK AREA EQN.	R^2	LOD ppm (ng)
Na	589.0	Y=0.421x + 42.8	0.9859	Y=15.81x + 978.6	0.9784	12 (60)
Fe	248.3	Y=1.06x - 102.1	0.9365	Y=45.80x - 6649	0.909	12 (60)
Pb	405.8	Y=1.18x - 10.45	0.977	Y=16.16x - 419.7	0.9298	14 (70)

Fig. 10

Fig. 11
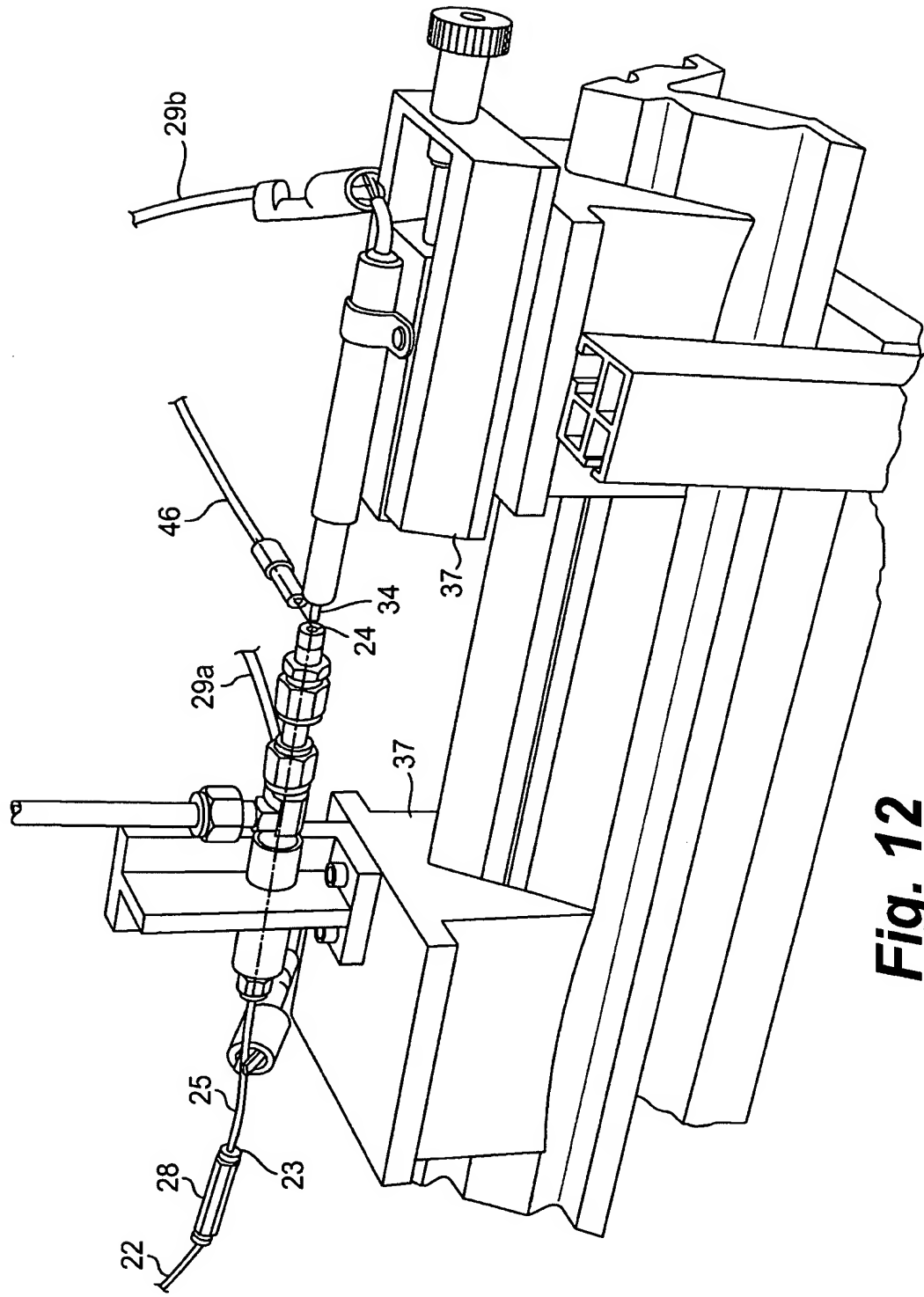
Fig. 12
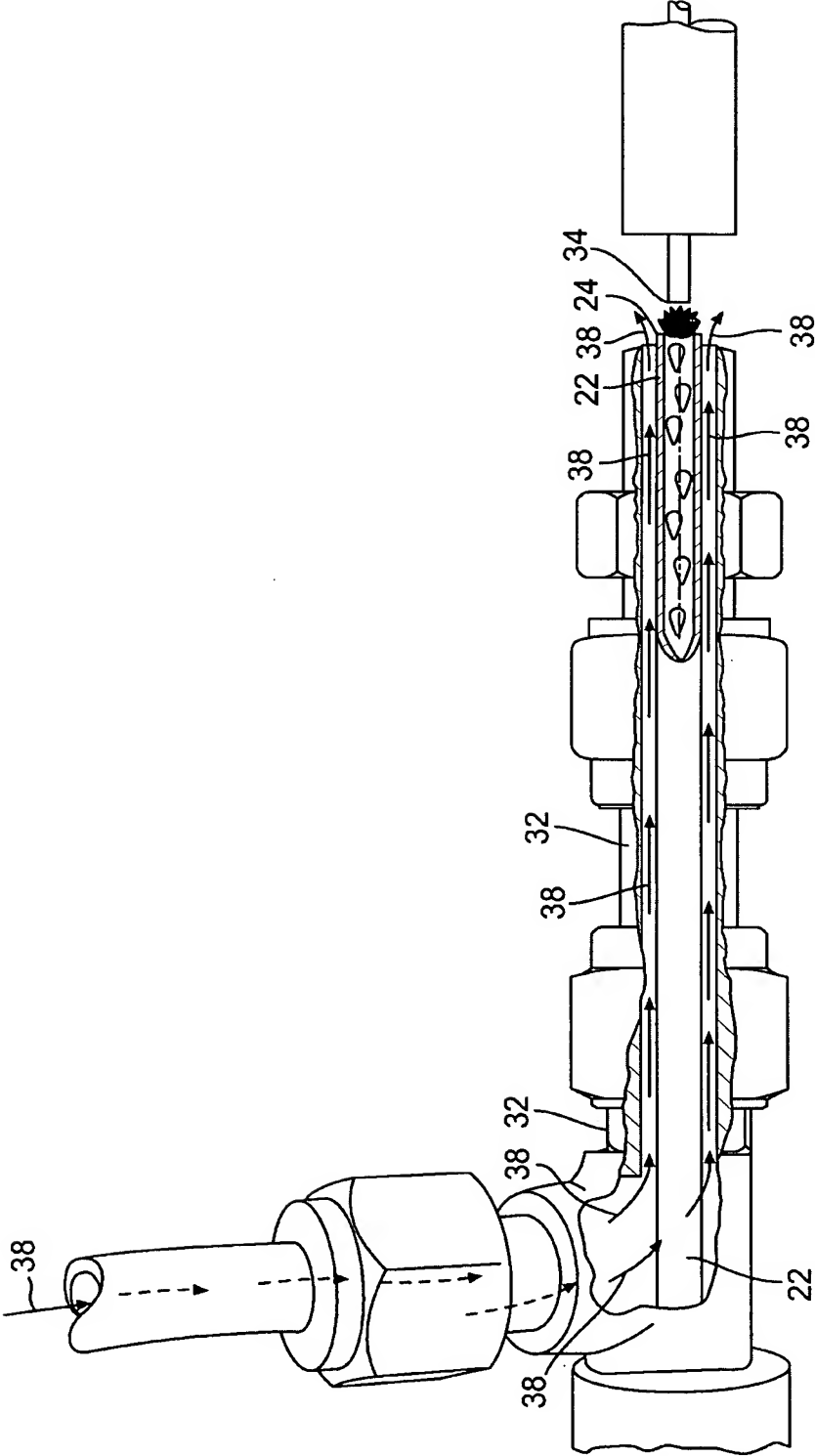
Fig. 13
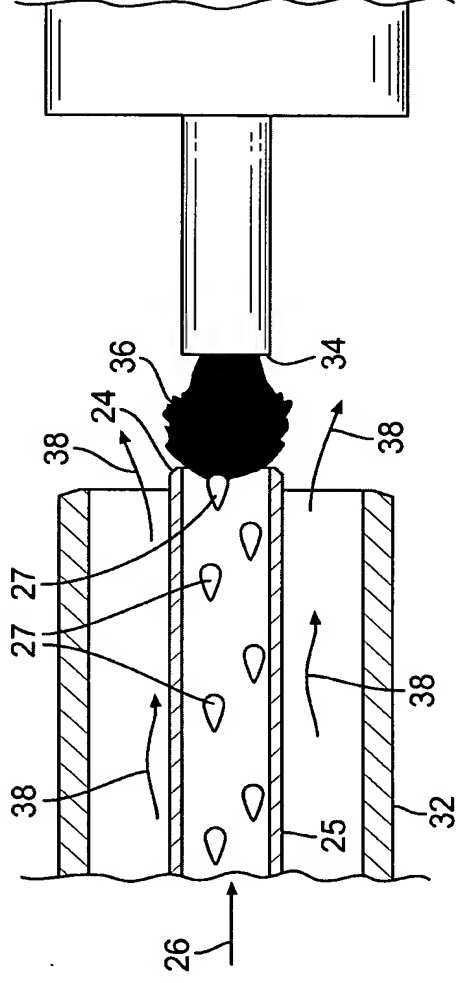
Fig. 14
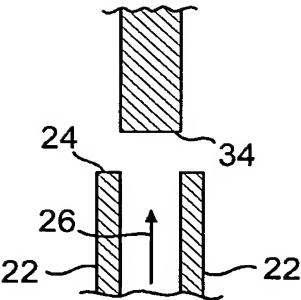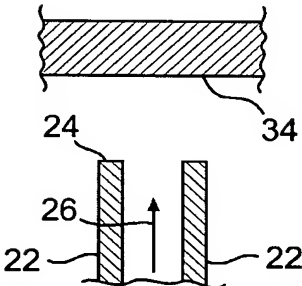
FIG. 15A

FIG. 15B

FIG. 15C

FIG. 15D

FIG. 16